Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

LIBRARY
RECEIVED
DEPT. OF AGRICULTURE

WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

46148

NOV 1939

Not for publication without
prior consent of this division.

REPORT FOR THE MONTH OF NOVEMBER 1939

HAVRE:

The mean temperature for the month was 39.9°, which was 10.2° above normal. The wind velocity was just slightly above average, most of the wind occurring in a few hard blows. No snow was received, and the precipitation totalled only 0.17 inch.

Conditions are too dry for good growth of crested wheatgrass sown this fall. The crested wheatgrass fall pasture was also too dry for complete utilization by the cow herd.

The heifer calves and yearlings were started on the preliminary individual feeding trials November 23. They are all being fed second-cutting alfalfa hay.

Renovation of the superintendent's apartment is nearing completion, and various repairs to the physical plant have been made.

Fred S. Willson arrived December 1 to assume his duties as Superintendent of this station. Mr. Willson was formerly County Agent of Teton County, and was located at Choteau, Mont.

Maximum temperature, 70°; minimum, 10°; precipitation, .17 inch; snowfall, none.

JUDITH BASIN:

Steers in the Winter Pasture and Feeding Experiment were again weighed on three consecutive days, and each of the two groups was divided into two smaller groups to obtain more data on varied levels of feeding of the concentrated supplement being used.

Weather during the month of November was pleasant, but because of the exceptionally high temperatures for this time of year, occasional high wind velocity, and lack of precipitation the condition of winter wheat was less favorable at the close of November than it was at the beginning of the month. Conditions, however, have been ideal for livestock. Crested wheatgrass, especially, has provided good pasture with a 4 to 6 inch growth of new grass.

Only once in the past 30 years have we recorded a warmer November. The warmest on record was in 1917 with a mean temperature of 44°. The mean temperature this year was 42.5°. Ten days during the month the maximum was 60° or more.

Moisture received during November totaled only 0.30 inch compared to the station average of 0.62 inch. To date the total station precipitation for 1939 is 11.66 inches, which is 2.59 inches below the station average.

The mean wind velocity for the month was 6.5 miles per hour. On four days it exceeded 10 miles per hour. November 30 brought one of the worst dirt storms since early spring.

Maximum temperature, 68°; minimum, 17°; precipitation, 0.30 inch.

HUNTLEY:

Day by day climatic conditions were strikingly uniform throughout the month. Almost every day was bright, mild, and dry, with wind

movement generally low. A total of 0.13 inch precipitation made the last month the driest November since 1923 and the fourth driest in the history of the station.

The prolonged dry period has been extremely unfavorable for winter wheat and rye. These crops planted on stubble or other poor types of seedbed have either not yet emerged or where a thin stand came up early in the season much of the crop appears to be dead. The soil of these plots is baked hard and badly cracked. Winter wheat on fallow remains green but has made little leaf growth in the last two weeks.

Fall-plowed ground is still too hard and dry to be reduced by tillage. An attempt was made at cultivation but had to be abandoned until precipitation is received. Other field work consisted of burning weeds and repairing fences.

Maximum temperature, 69°; minimum, 4°; precipitation 0.13 inch.

SHERIDAN:

November passed without a trace of precipitation, but with 0.02 of rain falling this morning (12-1). Temperatures averaged nearly 6° above the normal for the month, with maximum temperatures over 13° above the average, and the highest yet recorded here, and minimum temperatures about 2° below the average for the month. There were no extremely low temperatures at any time. Wind movement was low except on a few days, and there was no soil blowing apparent at any time.

Winter wheat examined the last of the month appeared to be in fair condition yet, but there was no moisture apparent in the soil except on fallow.

Grain sorghum varieties and soybeans were threshed and cleaned for grain weights. Russian thistles were raked from the rotations and some of the fields and burned. A groover was brought to the station by the Soil Conservation Service, and a large part of the steep slope in grass above the ditch on the north side of the station, and a part of the slope in native grass south of the highway were grooved.

Maximum temperature, 69°; minimum, 5°; precipitation, 0.02 inch.

DICKINSON:

November weather was mild and dry. Mean temperature of 34.2° was nearly 6° above normal. Only a trace of precipitation was recorded. This was the driest November since 1917, when only a trace of precipitation was recorded. In November 1938 precipitation amounted to 1.41 inches.

The ground was bare of snow throughout the month. The soil and vegetation were so dry that a few fires in the locality burned small areas of pasture and stubble fields.

Wind movement was below normal, and there were more than the usual number of quiet, clear, and pleasant days.

Precipitation since August 20 has amounted to only 0.58 inch. The total for the year to date amounts to 15.54 inches which is about half an inch above normal.

Maximum temperature, 70°; minimum, 2°; precipitation, trace.

MANDAN:

In a survey of the 1939 crop yields in the rotation and tillage experiments, (presented in the following table), it is evident that only the cereal crops, wheat, oats, barley, and winter rye, were above average in production.

The 1939 average crop yields in the rotation and tillage experiments, compared with those for the 20-year period 1915-34

Crop	20-year average	1939	Crop	20-year average	1939
Corn					
Fodder	3915	2485	Flax	4.5	3.2
Grain	26.3	13.6	Winter rye	11.6	18.4
Stover	2073	1533	Alfalfa	1982	1083
Spring wheat	15.8	18.4	Bromegrass	1031	850
Oats	32.4	45.8	Sorgo fodder	3443	2940
Barley	19.4	29.2	Potatoes	113.5	60.4

Note: Grain and potato yields in bushels; hay, fodder and stover in pounds per acre.

The explanation of why the cereal crops were above average in yield, and why other crops were below average, may be found in a comparison of 1939 precipitation with the average, presented in the following table:

1939 monthly precipitation compared with the 1914-38 average

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1939	.67	.62	.44	.74	1.93	4.65	1.69	2.19	.17	.54	T	-
Average 1914-38	.35	.39	.78	1.35	2.20	3.18	2.55	1.27	1.33	.80	.54	.44

A comparison of 1939 precipitation to the end of November with the 25-year average, shows an unfavorable condition during most of the months of the conventional growing season, April to September. With a deficiency in April and May, it appears evident that June rainfall being above normal must have been the deciding factor in bringing about an above normal production of cereal crops which normally mature before the end of July. Had July precipitation been normal or above, it is probable that one of the heaviest crops would have been harvested, as examination of stands and head development the latter part of June led to estimates of production as high as 50 bushels per acre for wheat and 100 bushels per acre for oats. As it came out the highest yield of wheat from any individual treatment was 32.8 bushels per acre on manured fallow, and for oats 65.6 bushels per acre on fallow. The rainfall deficiency in July no doubt was the deciding factor in bringing about subnormal production in the case of corn, sorghum, and potatoes, which are all harvested later in the season than the cereal crops. Precipitation deficiencies in April and May

must have had considerable to do with the poor production of alfalfa and bromegrass, which suffer severe setbacks under this condition of moisture shortage.

Precipitation for the fall months, September, October, and November, was the lowest of record since 1889, or for 50 years. The soil moisture at the last sampling, the middle of October, showed below average fall soil moisture. While this condition does not necessarily spell crop failure for 1940, it does mean that the chances of a normal crop have been materially reduced, and that normal precipitation in the spring will be necessary to increase those chances.

The month of November was mild, pleasant, and quite free from high winds. Two thirds of the days were clear. The minimum temperature for the month was 8° on the 10th, and the maximum was 69° on the 13th and 14th. Traces of precipitation for November have been recorded only twice before, in 1902 and in 1912.

BELLE FOURCHE:

November was abnormally warm and dry. The mean temperature for the month was 39°, which is 6° above normal, and it is equal to the second highest of record for November. The precipitation, .06 inch, was approximately 12 percent of the average for the month, and it was the third lowest of record for November. The wind movement was relatively low, and there were only a few days in which strong winds prevailed.

Owing to lack of moisture in the soil, the dry, warm weather was unfavorable to fall grain, and the top growth has become quite brown on all cultural treatments, except summer fallow. Winter wheat on fallowed land appears green and vigorous, but has made no perceptible progress during the month.

Field work consisted primarily of late fall cultivation to control soil blowing. Roads and alleyways were listed; and corn, sorgo, and potato plots were corrugated. Grass was reseeded on 14 plots, but lack of protective growth necessitated corrugating most of the plots.

Maximum temperature, 69°; minimum, 12°; precipitation, 0.06 inch.

ARCHER: (Report for Period October 15 - November 30)

The weather during the period October 15 to November 30 was dry with mild temperatures and without heavy winds. The 0.33 inch of precipitation recorded October 9 caused the winter wheat on fallow to germinate and emerge, however, the plants are small and have been eaten back by rabbits.

During the last half of October the corn was husked, and the corn plots to be fall-plowed were plowed. The soil was very dry. Soil moisture samples were also taken during this period.

The pasture experiment with sheep on native grass was terminated for the season. Old ewes on dry grass gained slightly but yearlings lost weight.

Feed generally is not sufficient and livestock, while in a healthy condition, are thinner than usual.

To date the total precipitation this year is 7.88 inches. The 26-year average for the first eleven months of the year is

13.68 inches. This year the seasonal precipitation was 5.82 inches. The previous 26-year average was 11.29 inches. In 1934 the seasonal precipitation was 7.22 inches and the total for the first eleven months was 8.51 inches. This makes 1939 the driest year in the history of the station by a substantial margin.

October 15-31 -- Maximum temperature, 76°; minimum, 24°; precipitation, 0.11 inch.

November 1-30 -- Maximum temperature, 63°; minimum, 11°; precipitation, 0.02 inch.

NORTH PLATTE:

No measurable precipitation fell during the month. The last rain was recorded on October 9. The accumulated deficit of precipitation since January 1 is 6.57 inches at the Weather Bureau station, and 5.71 inches at the experiment station. Temperatures were above normal for the month. The wind velocity was low, resulting in some shortage of water among ranchers dependent on windmills.

The condition of the winter wheat has not changed much since the first of the month. Some growth has been made, and the wheat on fallow is quite well established. On cropped land, this crop has made little growth and unless some winter moisture is received, much of it will not survive the winter. Winter wheat on fallow in the western part of the State is generally good. This crop in the southern counties of the panhandle has made enough growth to go through the winter without much blowing. In the central and eastern sections, wheat prospects are poor.

The buildings at the dry land station were painted during the month.

Maximum temperature, 71°; minimum, 9°; precipitation, trace.

AKRON: (Report for October and November)

The drought continues unabated with precipitation of only 0.36 inch. The normal in October and November is 1.43 inches.

Winter wheat has perhaps 60 percent emerged stands on fallow on the station. Other soil preparations show obsolutely no emergence. False wire worms have been reported working on the seed in some sections, but none have been discovered among the station plantings. The only emerged winter wheat seen in limited travel over northeastern Colorado is on fallow of the Vernon Table south of Wray and over the eastern end of Phillips County. Heavier rainfall the early part of October seems to have accounted for this. The 'Oklahoma Ridge' between Greeley and Loveland shows no emergence, but the fallow land is nicely surfaced with small clods. Some strip cropping of fallow and crop was observed in this section for the first time. The surface of fallow land showed good soil husbandry up to this stage of the winter wheat cycle.

Extension Service in codperation with August Finkner, a local farmer, is again feeding pigs at this station. The rations are No. 2 Iowa corn, Improved Coes, corn and Coes, and corn and proso. This experiment was started October 12.

J. J. Curtis and D. W. Robertson came down late in October and purchased chicken wire to fence the Cereal nursery where rabbits are tending to dig out the emerged winter wheat.

The weather has been very mild and free of winds of high velocities.

October -- Maximum temperature, 85°; minimum, 20°; precipitation, 0.36 inch.

November -- Maximum temperature, 70°; minimum, 13°;precipitation, trace.

COLBY:

November was a dry month. Ideal fall weather prevailed otherwise nearly the whole month. The temperatures averaged slightly above normal with no extremes. There were only three days when it was windy enough to cause any soil blowing, all during the last week. The blowing was not severe. The days were generally warm and pleasant, and the nights were usually calm but rather cold. The temperature dropped to freezing or lower every night but two. There was not much cloudy weather. The precipitation for the period from September 1 to November 30 was the lowest on record, 0.55 inch.

After waiting in vain for moisture, the wheat plots were seeded on the 21st. The top soil was dry to a depth of about 6 inches even on the fallow plots. The seed is in a dry seedbed and will not germinate until moisture falls. All the late fall tillage work was completed this week. The blow furrows have not been run, but will be this coming week if nothing prevents. A better job could be done after a rain, as the ground now turns up either very cloddy or dusty. In the alleys, which are listed every fall, the soil is very loose and would not turn up very cloddy.

Maximum temperature, 71°; minimum; 8°; precipitation, 0.12 inch; precipitation, 52-year average, 0.57 inch.

Precipitation, January 1 to November 30, 1939, 12.62; 52-year average, 16.84 inches.

HAYS:

The drought has continued through November. The month has a record of 23 clear days, 4 partly cloudy days, and 3 cloudy days. All the partly cloudy and cloudy days occurred after November 23. The only precipitation during the month was 0.06 November 9 and 0.05 November 30. There were no heavy winds during the month. In fact it was unusually quiet.

The condition of the wheat is very poor. There is only a sprinkling of a stand, and most of this is on fallow. From the roadside most of the fields look bare.

Maximum temperature, 71°; minimum, 4°; precipitation, 0.11 inch.

GARDEN CITY:

This month was quite pleasant so far as temperatures are concerned, as the maximums were above average and the minimums a little below average. However, only 0.20 inch of moisture was received and the average is 0.67 inch. The total thus far this year is 8.93 inches and the average 16.78 inches. No wheat has been planted on the D.L.A. project, and all hope of seeding has been abandoned. Considerable wheat has been seeded in this area, but little if any has germinated, except that which is under pump irrigation. The wind velocity was about average, and only two dust storms occurred, which were not severe.

The sorghums were threshed and the grain and stover weights recorded. Only small yields were received on the D.L.A. project, and they were all on fallow or wide row plots except one. A small yield of feterita was produced on continuously cropped ground. Soil samples were taken on some of the plots.

A Soil Conservation Service conference was held here on November 1 and 2 during which a tour was made of the station. There were approximately 25 present from Washington, D.C., Texas, Colorado, Oklahoma, and Kansas. Other visitors were R. F. Cox, Animal Husbandry Department, Kansas State College, and L. A. Brown and Mr. Langly from Colorado Agricultural College, Fort Collins, Colorado.

Maximum temperature, 74°; minimum, 10°; precipitation, 0.20 inch.

TUCUMCARI:

The month was cold, unusually calm, and without precipitation until the 29th, when 0.34 inch was received. Precipitation of 10.74 inches since January 1 is exactly 4 inches below the long-time normal.

Wind velocity averaged only 3.6 miles per hour. Many farmers and ranchers found it necessary to equip and install pump jacks and motors in order to obtain household and stock water.

Fall field work was completed under perfect conditions. Yield averages have not been completed, but, with the exception of corn, the majority of crops produced from 60 to 85 percent of normal yields.

The cattle market is active, calves selling from 8 to 9½¢. A number of range cows have been delivered recently at from $55 to $70 per head. Ranges are comparatively good, well able to carry through the remaining livestock with the usual supplementary feed. Wheat pasture is virtually non-existant in this county. Early wheat which emerged in late August has made no growth the past 60 days; much late wheat has not fully emerged. Farmers who were expecting to receive good rental for pasturing cattle are now hoping sufficient rain will fall to assure survival of the wheat seedlings.

Bids for the construction of the first 20 miles of the Conchas Dam canal line are expected to be awarded within the next few days.

Maximum temperature, 74°; minimum, 21°.

DALHART:

The month of November was characterized by mild temperatures and low wind velocities. This permitted of outside work throughout the month. Fall work is well along in spite of the fact that there remains about 10 days of actual field work to do. Threshing, except for one lot of seed, has been completed.

The dry fall, which left a minimum of moisture in the grain and heads, permitted an exceptionally high threshing percentage. The yields have not all been calculated, but they will all fall a few bushels short of the long time averages. This is the first uniform group of yields since 1931. The average of the milo plots will be above 18 bushels, and the average of the kafir plots will be above 19 bushels. The test weight of the milos at the machine was 56 to 58 pounds per bushel and for the kafir 58 to 60 pounds. Threshing percentages ranged from 71 to 76.

Maximum temperature for the month was 74°; the minimum was 14°; the mean was 41°. Precipitation for the year to date is 13.33 inches.

BIG SPRING:

Weather conditions during the past month were ideal for crop harvesting. Temperatures were mild, wind velocity was low, and until the last two days, there was no rain. The temperature dropped to 32° for the first time this season on November 13, three days later than the normal date. No vegetation was killed at this time, and it was not until November 18 that the minimum dropped low enough to cause any plant injury. There was no damage to crops at this time, as practically all of them were harvested. Rains totalling 1.09 inches were received on November 28 and 29. This is the first rain of any value since August. These rains fell slowly over a period of two days, so there was no loss from any run-off. This rain came at a very opportune time, as fall plowing would have been difficult with soil as dry as it has been for the past two months. The plots are ready to plow now, and a good job should be accomplished. The rainfall during the growing season totalled 9.87 inches as compared with a normal of 13.06.

Practically all field work for the crop of this season was completed during the month. Cotton picking was completed as was also threshing of grain sorghums. A few plots of peanuts are all that remain to be threshed.

Fifty head of feeder calves were received November 4 for the feeding experiments. They were kept on preliminary feed until November 28 when they were divided into lots and the experiment proper was started.

Station visitors during the month included Messrs. J. M. Jones and John H. Jones of the Animal Husbandry Division of the Texas Experiment Station.

Maximum temperature, 82°; minimum, 23°; precipitation, 1.21 inches.

LAWTON:

November temperatures were approximately normal. A good many days of threatening, cloudy weather during the month did not produce any moisture until the 28th and 29th when a total of 0.70 inch was recorded at the station. The total for 11 months is now 16.64 inches, or 12.03 inches below the 66-year average.

Station plots of wheat, oats, and barley on fallow or on early preparation are in fair winter condition. Growth has been sharply restricted by dry weather, but, on the whole, the general condition of these crops is better than it was at this time in 1938. All plots, irrespective of the seedbed preparation, appear to have made a healthy response to the late November rain.

This condition is not generally true on the surrounding farms. In a few instances the small grains should survive the winter with sufficient vigor to respond to favorable conditions in the early spring. But, in most instances the crops have not emerged or the stands have been severely reduced by drought. A good many farmers have seeded and are seeding since the last rain. A yield from such late seedings is possible, but it is quite probable that such seedings are being made primarily to comply with insurance or other crop control measures.

WOODWARD:

Dry weather continued with 0.44 inch of rainfall in November, this being the fourth consecutive month with precipitation far below normal. Only 1.38 inches have been recorded since August 1, which is approximately 16 percent of the 25-year station average. The mean temperature of 46° was slightly below normal. Wind movement fortunately has been relatively light, appreciable soil drifting occurring on one day. There was considerable cloudiness near the close of the month, otherwise mostly clear skies prevailed.

Winter wheat in the crop rotation field germinated slowly following a surface shower of 0.34 inch on the 9th. Partial stands are now emerging, but additional rainfall is needed to connect up the subsoil moisture.

Construction of the pump house was completed, and enlargement of the pumping plant reservoir is now in progress. Water lines were drained and miscellaneous physical plant work was accomplished in preparation for winter. Some fencing was done around the new 480-acre addition, also considerable clean up work by N.Y.A. in demolishing old buildings on this area and salvaging lumber, brick, and rock therefrom.

Greenhouse cuttings for windbreaks have been obtained, evergreens transplanted using the cylinder method, and various replacements and additions made. Owing to dry soil the nursery area was irrigated before digging to avoid injury to roots. Seedling grapes were also dug and sorted for the vineyard.

Visitors included Dr. P. V. Cardon, Assistant Chief of BPI, Dr. H. C. Trumble, Range Supervisor for Southern Australia, R. R. Innes, Grass Specialist, British, South Africa, and Dr. F. E. Clements of the Carnegie Institute, Washington.

Maximum temperature, 80°; minimum, 13°; precipitation, 0.44 inch.

PENDLETON:

This month's report is one of continued drought throughout the Columbia River Basin. Much of the fall-sown wheat in the vicinity of the station is up with very good stands. From other sections farmers report wheat lying in the ground over two months without germination. A few farmers report their wheat starting to germinate and then drying up from lack of moisture. According to the Walla Walla, Washington, papers this has been one of the driest falls since weather records have been kept, a period of 60 years.

In the drier areas west and north of Pendleton a large portion of the acreage that would normally be sown to winter wheat will be held over for spring seeding. In some of the counties little spring wheat is grown and it will be necessary for the farmers to ship in seed wheat.

Ranges are very dry and stockmen have started feeding weeks in advance of their usual schedule. The lack of range feed has been reflected in the price of feed barley on the local market, the price jumping from about $15 to $21 per ton.

An extensive series of grass trials were seeded on the station on October 23. These grasses were sown in the dust and will not emerge until we have rain.

A few varieties of grain sorghums were harvested this month, the growth and yields of this crop were rather disappointing. Growth was very uneven, in the late fall there were mature heads and heads still in bloom on the same plant. During the hot weather in August all growth seemed to be checked.

	1939		10-yr. ave.
Precipitation	November	.03 in.	1.51 in.
"	Sept.1-Nov. 30	1.12 in.	3.14 in.
"	Jan. 1-Nov. 30	8.75 in.	11.88 in.

Maximum temperature, 65°; minimum, 15°.